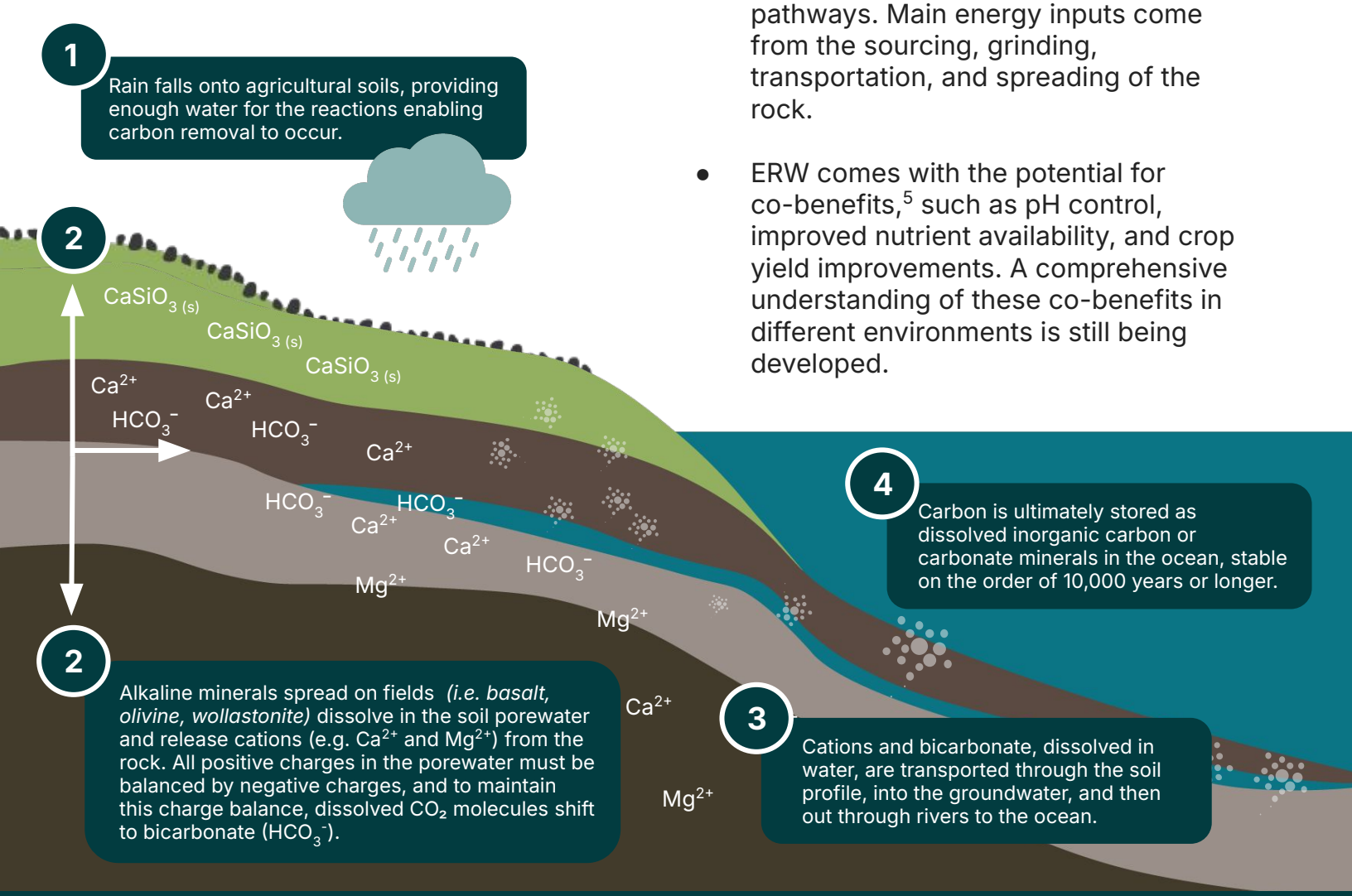
# Enhanced Rock Weathering (ERW) 101

Cascade Climate

**Enhanced Rock Weathering (ERW) on agricultural soils offers a promising pathway to gigaton-scale durable carbon removal via accelerated natural processes.**

**Currently, the Earth naturally removes ~1 gigaton of $CO_2$ per year via natural silicate weathering.[1] Managed ERW has the potential to remove another 1-4 gigatons of $CO_2$ per year.[2,3,4]**

- ERW does not require additional land use and builds on existing infrastructure (e.g., existing basalt quarries, supply chains), tools (e.g., agricultural spreaders), and practices (e.g., spreading aglime).
- Depending on how it is deployed, ERW may require less energy per ton of CDR compared to more engineered pathways. Main energy inputs come from the sourcing, grinding, transportation, and spreading of the rock.
- ERW comes with the potential for co-benefits,[5] such as pH control, improved nutrient availability, and crop yield improvements. A comprehensive understanding of these co-benefits in different environments is still being developed.




1. Strefler *et al* 2018 *Environ. Res. Lett.* 13 034010. 2. Sabine Fuss *et al* 2018 *Environ. Res. Lett.* 13 063002; 3. Beerling *et al* 2020 *Nature.* 583 7815; 4. Baek *et al* 2023 *Earth's Future.* 11 003698.; 5. Swoboda *et al* 2022 *Total Environ.* 150976;